1.   INTRODUCTION

CNC-210A is a series of COIL WINDING MACHINE CONTROLLER developed by **TAILY AUTOMATION**.   It not only retains all the features of previous designs, it also has a low noise level and is less sensitive to external power fluctuation. Furthermore, it also includes a RS-485 network interface, making coil-winding operation easier to manage.

CNC-210A also features an integrated design: putting stepper motor driver, DC motor speed controller, brake and power supplier control circuits into one control box, simultaneously achieving size reduction, high performance and low cost.

CNC-210A Series offers CNC-210AS "Standard Model" and CNC-210AE "External Connection Model", depending on whether a close-loop driver is provided for various applications.

MODEL	Winding Spindle	Guiding Traverse
CNC-210AS	Drive 0.5hp DC motor in directly.	Drive two phases 2A STEP motor in directly.
CNC-210AE	External connect winding spindles motor driver.	Drive two phases 2A stepper motor in directly, Or external connect guiding traverse STEP motor driver.

2.   MAIN FEATURES

◆Single chip Microprocessor design, has further higher performance and higher functions; it also has less sensitive to external power fluctuation or to external electromagnetic interference.

◆Memory use FLASH ROM, capacity capable storing up to 1000 steps winding data, 9 winding parameters, and 5 options can be independently assigned for each step. Off-power memory retention without battery.

◆Winding speed can be specified using the front panel keypad, resulting in easy programming of multi-step, multi-speed settings.

◆Guiding traverse shaft stepper motor with a constant-current driver offering fast wire guiding speeds.

◆Guiding traverse shaft offering 10 steps moving speed selection.

◆Offering RS-485 interface for PC linking and data transfer.

◆Software can be update through the personal computer.

◆Power input AC100V~120V   220V~240V 600VA(max).

3.   FRONT PANEL DESCRIPTION
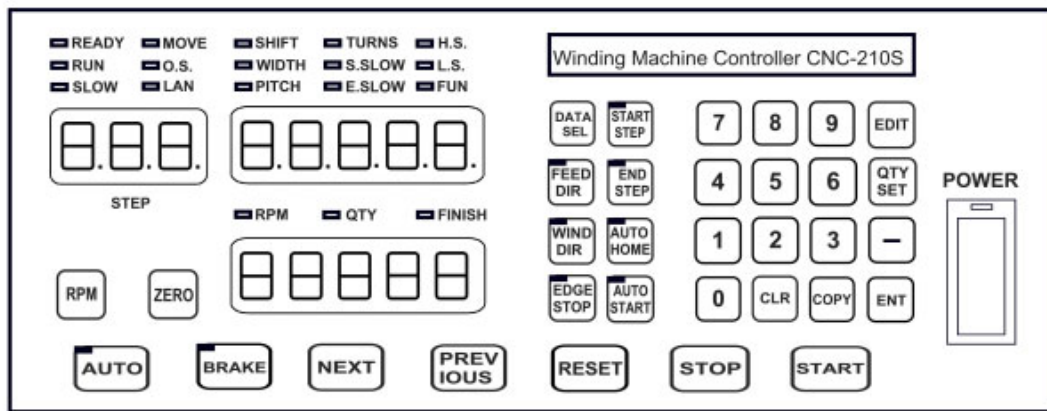
3.1.   Power switch

Power supplier equipped, controls the AC power to the controller.

3.2.   Key pads

|	
0 ~ 9	10 key, for entering numerical values.
EDIT	Enter into EDIT mode.
QTY SET	Specify target production quantity.
START STEP	Specify starting step in memory.
END STEP	Specify ending step in memory.
DATA SEL	Select parameter to be programmed, or to switch display mode.
FEED DIR	Select guiding direction for each step.
WIND DIR	Select winding direction for each step.
EDGE STOP	To specify whether to suspend winding, during the guiding traverse moving to the edge of the width.
AUTO HOME	Select whether to have auto-positioning function for each step.
AUTO START	Select whether to have auto-starting function for each step.
−	Reduce step number by one, or reduce PIECE COUNTER by one.
CLR	During programming, clear current data to zero.
COPY	Copy the data of previous step into current step.
ENT	Write data into memory.
RPM	Switch display to shows PIECE COUNT or RPM.
ZERO	Hold down this key for two seconds to reset PIECE COUNTER to zero.
AUTO	To switch between AUTO and NON-AUTO mode.
BRAKE	Switch whether brake will be applied to the win spindle during stopping.
NEXT	Skip current step and go to the next step.
PREV IOUS	Discard current step and go to the previous step
RESET	At any time, discontinues current operation and return to ready mode.
STOP	Pause during winding.
START	Restart during pause, or pause during winding.

3.3.　Digital display
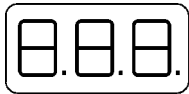
STEP DISPLAY：Show the current step number being wound or being programmed.
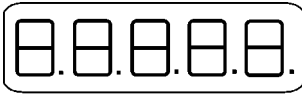
DATA DISPLAY：During programming, in combination with LED, shows the parameter being programmed. During winding or ready mode, show the current number of turns or show the guiding traverse shafts position.
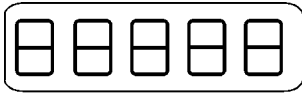
COUNTER DISPLAY：Shows PIECE COUNT or RPM.

3.4.　Status indicators

☐ **READY** : Lit means in READY mode, flash means PAUSE mode, Not lit means winding or programming in progress.

☐ **RUN** : Lit means winding in progress; not lit means not in progress.

☐ **SLOW** : During winding, lit means low speed winding; not lit means high speed winding.

☐ **MOVE** : Lit means guiding traverse is fixing the starting position for winding or is returning to the home position.

☐ **O.S** : lit means winding operation is over speeding, guiding traverse and winding spindle shaft are out of synchronization.

☐ **LAN** : Lit means currently are communicating with network.

☐ **FINISH** : Will lit when reaching the preset piece count.

☐ **RPM** : Lit means the PIECE COUNT DISPLAY shows RPM.

☐ **QTY** : Lit means the PIECE COUNT DISPLAY shows the piece count.

3.5.　Winding parameters definitions

SHIFT : Start position of the guiding traverse.
[Setting range 0.00~ 999.99 mm].

WIDTH : The traverse of the copper wire led by the traverse during winding. [Setting range 0 ~999.99 mm].

PITCH : Diameter of the copper wire. [Setting range 0~ 9.999mm].

TURNS : Total number of turns to be wound.
[Setting range 0.0~9999.9 or 0~99999 turns].

S.SLOW: Number of turns to be wound at low speed, when start winding.
[Setting range 0~999.9 turns].

E.SLOW: Number of turns to be done at low speed prior to stopping. [Setting range 0 ~999.9 turns].

H.S. : High winding speed. [Setting range from 0~99%].

**L.S.** : Low winding speed. [Setting range from 0~25%].

FUN : Winding complete output signal set.

4.   PROGRAMMING WINGING PARAMETER
4.1.   MEMORY RANGE SELECTION

CNC-210A contains 1000 memory step, by defining the region, users can effectively manage the memory. Various winding parameter can be stored in different regions and can be retrieved instantaneously. After specifying the regions, programming and winding can be done in those regions; all un-selected regions will retain their original contents and unmodified. When setting the STEP number, the Ending step number must be larger than the Starting step number, or the winding operation will not start

◆Specifying starting step

   In ready mode, press [START STEP] [0~999] [ENT] to selected. [Setting range 0 ~ 999].

◆Specifying ending step

   In ready mode, press [END STEP] [0~999] [ENT] to selected. [Setting range 0 ~ 999].

4.2.   Programming winding parameter

In READY mode, press [EDIT] [ENT] invokes the programming mode, the STEP DISPLAY shows START STEP, the parameter indicator SHIFT lit, the DATA DISPLAY shows SHIFT setting value, the SHIFT can be changed by pressing the numerical keys followed by the [ENT] key.

After that the STEP number will automatically increase by one, to continue set the SHIFT for next step. When the STEP number is larger then the END STEP , the STEP number will restore to the START STEP and the indicator light will change from SHIFT   to WIDTH   to specifying the width for each STEP. Repeat the same procedure using numerical keys and the [ENT] key, all winding parameters for each STEP can thus programmed, after that press [EDIT] key again to go back to ready mode.

The following functions are also available:

[FEED DIR]   To select guiding direction, forward or reverse.

[WIND DIR]   To select winding direction, clockwise or counter-clockwise.

[EDGE STOP]   To specify whether to suspend winding when the guiding traverse moves to the two edges of the width.

[AUTO HOME]   To select whether guiding traverse returns to the starting position automatically or upon a manual pressing of the [START] key.

[AUTO START]   Select whether to have auto-starting function for each step.

[CLR]   Clear the current value to zero.

[COPY]   Copy the content of the previous step to the current step.

[−]   Go back to the previous programming step.

[DATA SEL]   To scroll through different parameters.

Each time when change the PARAMETER or OPTIONS, [ENT] key must pressed to effect the change.

4.3.   Guiding traverse shaft introduce setting

During set the   SHIFT ,   WIDTH   and   guiding traverse travel limit , can use numeric keypad to set location data or can also use [NEXT] , [PREV IOUS] keys to leading the guiding traverse shaft location.

4.4.   Clear all winding parameter

In the READY mode, press [EDIT] [CLR] [—] [ENT] will clear all the winding parameter in the memory. Be cautious in using this function or all the data will be lost.

5.   WINDING METHOD DESCRIPTION

Prior to winding, the general winding principles are explained below so the operators can have a better understanding of the performance of the controller and make better use of it.

5.1.   Counting mode

◆Absolute counting mode

Winding spindle shaft is capable of fixed-point stopping. Upon each restart, the turn count will reset only the integer portion of the turn's to zero, with the decimal unchanged. For example, for a previous number of 100.3 turns, when restarting the next step winding, the counting will start with 0.3 to avoid accumulation of spindle shaft free play error from consecutive windings. This counting method may cause insufficient winding by one turn. Therefore, when starting from **0.9**, the spindle will turn to the **0.0** before it starts counting.

◆Relative counting mode

This counting method zeros the counter upon each restart, therefore it is easy to understand and will not cause insufficient winding.

5.2.   Wire-guiding mode

◆Interlace wire-guiding

If the   WIDTH   of the step is zero, the wire-guiding becomes interlace mode. When it begins winding, the wire-guiding will follow the wire direction to proceed two wire diameters and regress one wire diameters cyclically until the step of winding ends. This mode especially suits the inductor winding.

◆Non wire-guiding

Sometimes, the winding device may be used to winding adhesive tapes or copper foil. When the wire-guiding is not needed,   PITCH   may be adjusted to zero and the wire-guiding won't be move.

5.3.   Operation mode

◆Single click mode

When press the start switch, the motor start winding, and when you release the start switch, the motor stop winding immediately.

◆Double click mode

When press the start switch, the motor start winding, and if you want to pause the motor, you have to release the start switch then press it again.

5.4.   Running mode

◆Continual mode

Before it begins winding, if   SHIFT   of the step set as 999.99, then the starting position, the width , the wire-guiding direction and the winding direction won't be re-read. The values are not changed, that is the wire guiding will continue guiding wires on the same position. The width and left-right margins are the same as the ones of the previous section. Both the wire-guiding and winding directions are not changed either. This mode especially suits to winding which have the multiple drawing tops in the same sets of coils.

◆Edges slow mode

The winding speed will slow down before the guiding traverse reach to the two edges of the width (work with   E. SLOW   turns). After the guiding traverse veered, then restore to hi-speed winding. (Refer to the section 7.1. edge slow mode).

◆Automatically circularly mode

If [AUTO] key set to on, it means Automatically circularly mode, in this mode when finish a step of winding it will automatically get into next step and start winding without press[START]key (work with [AUTO START] and [AUTO HOME] keys).

5.5.   How to set winding turns accurately

◆Preset method

Set the   E.SLOW   to zero first and then set the   TURNS   to the desired number. Set proper parameters according to copper wire, bobbin, tension, etc, then press[START]to start winding. When finished, obtain the actual number of turns and calculate the number of overshot turns. Go into programming mode and subtract the number of the overshot turns from the   TURNS   to obtain the required setting.

This method has a higher throughput, however, the resulting stopping location may not be precise.

◆High-Low speed method

This method uses a combination of   H.S   /   L.S.   and   E.SLOW   to achieve the desired number of turns.

The   L.S.   should not be too high. The number of   E.SLOW   turns must be adequate to allow the spindle shaft to slow down to low speed before reaching the total number of turns. This can result in precise stopping location.

◆Double-brake method

As the winding turns of the winding shaft reach the numbers of the   E.SLOW   , brake for a short period first. After the winding shaft stops, continue winding at low speed. Therefore the numbers of the slow speed may be reduced and the efficiency of winding may be increased, (Refer to the section 7.1. braking mode).

6. WINDING EXECUTION

6.1. To start winding

After set up all data items, press [START] key the winding process begins in accordance with the set-up content. Press [STOP] key to pause winding. During winding, press the [0] key, the winding speed can be switch between high speed and low speed.

The following key functions are available during PAUSE mode:

[PREV IOUS]   Give up the numbers of the winding turns and regress one step.

[NEXT]   Finish current step and proceed to next step.

[START]   Continue winding.

[RESET]   Give up winding and go back to the READY mode.

6.2. Change the display mode

During winding or during PAUSE mode, press [DATA SEL] key, the DATA DISPLAY can be change the display mode between turns or guiding traverse position.

6.3. Winding speed (RPM) display

Pressing [RPM] key will cause the PIECE COUNT DISPLAY to display the spindle shaft RPM without interrupting the counting. Pressing [RPM] again will change the PIECE COUNT DISPLAY back to displaying the piece count.

6.4. Piece counter management

Upon turning on the POWER SWITCH, PIECE COUNT DISPLAY will shows the number of piece produced. During wining, each time the CONTROLLER goes from the START STEP to the END STEP, the piece counter will automatically increase by one.

◆Preset piece counter

In READY mode, press [QTY SET] key once and key in desired values [0~99999] followed by the [ENT] key. When the PIECE COUNTER reaches the preset value, the FINISH led will lit. [Setting range 0~99999].

◆Decrease piece counter

During READY or PAUSE mode, press the [−] key and hold down for two seconds the piece counter will decrease by one.

◆Reset piece counter

In any time holding down [ZERO] key for two seconds, it will set the piece counter to zero.

7.   CONFIGURATION SETTING

CNC-210A is a multi-purpose design, to meet various requirements; additional settings are configured to provide flexibility for additional applications.

In the READY mode, press the following keys combination as section **[7.1. ~7.10],** the DATA DISPLAY will show corresponding setting value. If no change is necessary, press the [ENT] key get back to READY mode. Or press [−] key to get into change mode, then the parameter can be changed by pressing the numerical key followed by the [ENT] key.

7.1.   Winding mode selection [EDIT] [DATA SEL] [0]

In this function the STEP display and the DATA display will shows eight digits, representing eight winding mode selections respectively.

Press numerical keys as below to set each digit.

[1] **Moving speed**   The guiding traverse moving speed.
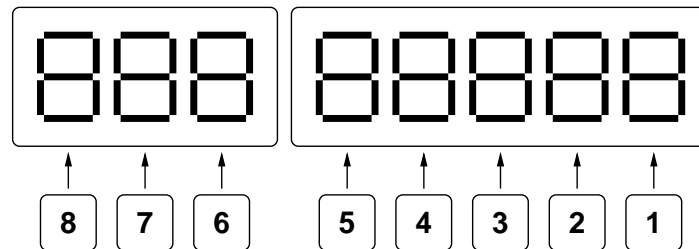   **0** represents high speed; **1** represents low speed.

[2] **Moving increment**   The travel increment of the guiding traverse.
   1 represents 0.01mm (4 mm per revolution).
   2 represent 0.02mm (8 mm per revolution).
   4 represent 0.04mm(16 mm per revolution.

[3] **Counting mode**   Select the counting mode of the winding spindle shaft.
   0 represents with zero point and using absolute counting mode.
   1 represents without zero point and using relative counting mode.

[4] **Edge slow**   Slow down the winding speed before the guiding traverse reach to the two edges of the width.
   0 represents not slow down; **1** represents to slow down.

[5] **Braking mode**   Select the braking mode of the winding spindle.
   0 represents single brake mode; **1** represents double brake mode.

[6] **Counting unit**   Select 0.1 or 1 turns as your count unit.
   0 represents **0.1**(0.0 to 9999.9 turns); **1** represents **1**(0 to 99999 turns).

[7] **Guiding traverse unit**   Select the basic unit of guiding traverse.
   0 represents **mm**; **1** represents **inch** (must using lead screw in imperial).

[8] **Operation mode**   Select operation mode for the START switch.
   0 represents Single click mode; **1** represents Double click mode.
   The [START] key on the front panel always as the Double click mode.

7.2. Station number `EDIT` `DATA SEL` `1`

Set the station number of the winding machine controller. This number is used to identify the station when using RS-485 communication function. Up to 32 stations can be operated on the same network. [Setting range 01~99].

7.3. Password `EDIT` `DATA SEL` `2`

This password is used to protect the setting data in memory. After you set this password, you cannot change any winding parameter and configuration data in normal sequence. You have to key in four numbers of password before press the `EDIT`, `START STEP`, `END STEP`, `QTY SET` keys. If the password has been passed once, you can change any data in normal sequence until you turn off the power or press `RESET` key. You must to remember the password or you cannot change any data. [Setting range 0000~9999]. Set 0000 means no password.

7.4. Travel limit `EDIT` `DATA SEL` `3`

Set the maximum travel distance of guiding traverse. During winding when the guiding traverse reaches this position, the motor stop winding immediately, and the DATA DISPLAY shows error massage, then RESET and go back to the READY mode. [Setting range 000.00~999.99]. 999.99 Means no limit.

7.5. Fixed location `EDIT` `DATA SEL` `4`

To set how often, must be correct the guiding traverse location. Each time when finish this number of product pieces, the guiding traverse will moves to the home position to correct the location before moving to starting position.

[Setting range 00~ 99]. Set 00 means not to do this function.

7.6. Limited winding speed `EDIT` `DATA SEL` `5`

This value is to limited winding speed and make sure the winding spindle shaft and guiding traverse are in synchronization. The controller uses this value to calculate with wire PITCH of current step, and then to limited maximum winding speed of current step.

[Setting range 0~ 99999]. Set 0 means no limit speed.

7.7. Brake holding time `EDIT` `DATA SEL` `6`

To set the hold times for brake. [Setting range 0.1~9.9 sec].

7.8. Guiding traverse moving speed selection `EDIT` `DATA SEL` `7`

The speed at which the guiding traverse moving to the starting position and returning to the home position. [Setting range 0~9].

7.9. Winding spindle output mode selection `EDIT` `DATA SEL` `8`

Set to "**1**" for CNC-210AS and CNC-210AE or occur a fault.

7.10. Acceleration times `EDIT` `DATA SEL` `9`

Set the accelerate times for the winding spindle [Setting range 00~99].

00 means shortest acceleration times   **99** means longest acceleration times.

T(ms)   H.S.   L.S. $\times$ N   1 $\times 2$

## 7.11. Reset all configuration data [EDIT] [CLR] [0] [ENT]

In READY mode press[EDIT][CLR][0][ENT]keys, it will reset all the configuration data and replace by initial data. Be cautious in use this function.

7.12. Data transmit

The CNC-210AS has a RS-485 serial communication interface, can be used to send the winding data to the others station. Up to 32 stations can be operated on the same network.

In this function, set station numbers to the controllers to recognize the controller to which the current data is being send. (Refer to the section 7.2. station numbers.)

The communication bus wiring diagram as below
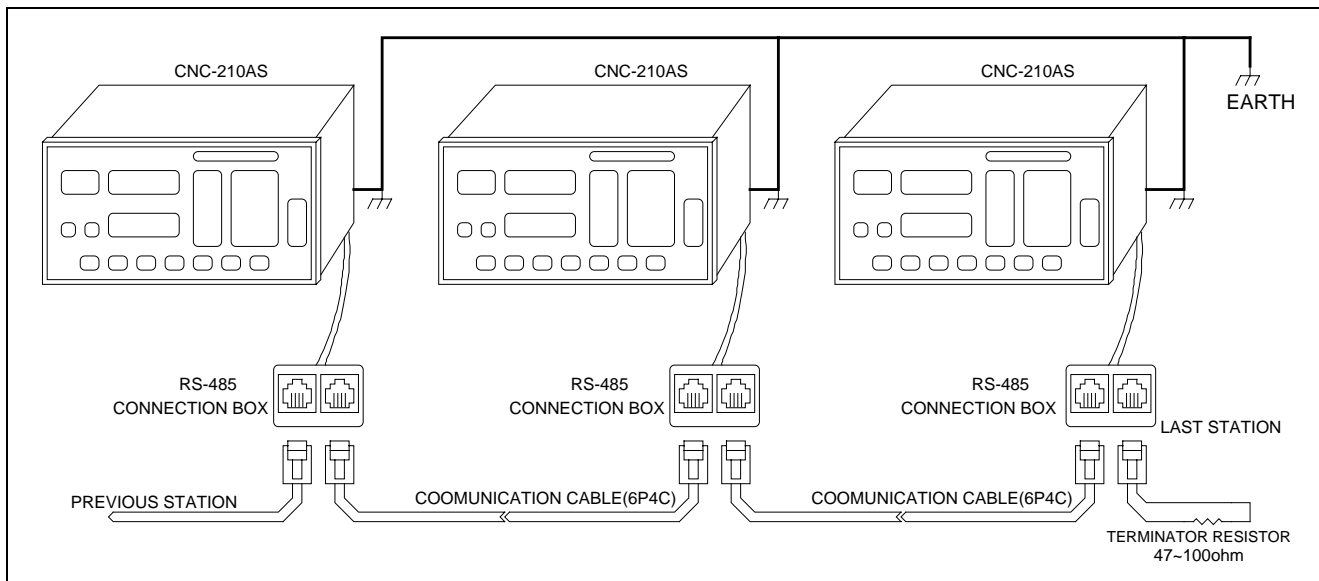
In READY mode press following keys combination, its will sent each setting data to target station.

[EDIT][COPY][0][00~99][ENT]　　Sends configuration setting data to the specify station.

[EDIT][COPY][1][00~99][ENT]　　Sends winding parameters to the specify station.

[EDIT][COPY][2][00~99][ENT]　　Sends password to specify station.

It will sends from START STEP to END STEP, during sent the winding parameters,

[00~99]　　　Represents target station number. If the target station number specify as "00", all the stations on the same network will receive the data is being sent.

8.   INSTALLATION AND WIRING

◆The controllers should be operated in an environment that is protected from moisture, corrosive gases, or liquid, and free from airborne dust, metallic particles, and magnetic noise.

◆Do not block the intake/exhaust ports of the controller. Otherwise, a fault may occur.

◆Make sure that the power source supplies the correct voltage and is capable of supplying the required current to the controllers.

◆Do not connect or disconnect wires and connectors while power is applied to the controller.

◆Make sure the machine and controllers are properly grounded.

◆Make sure that the leads and connectors are connected correctly.

◆Normally operate under 10   ~ 40   environment; over 40   should perform under good ventilation, avoid heating.

8.1.   Accessories and options

NAME		CNC-210AS	CNC-210AE
210A-CN2	RS-485 Connection box		
210A-CN3	Operate switches connection cable		
210A-CN4	Home sensor connection cable		
210A-CN5	Counting sensor connection cable		
210A-CN6	Aux I/O signal connection cable		
210A-CN7	Pulse output connection cable	×	
210A-CN8	AC output connection cable	×	
HOME-SR	Home sensor		
CNTB-03B/C	Counting sensor		
DISC	Counting disc		
START	Push button switch		
STOP	Push button switch		
RESET	Push button switch		
Foot switch	RUN/STOP Foot switch		
Power cord	AC Power cord		
× = not use in this model			

8.2.   Wiring diagram for CN2~CN6
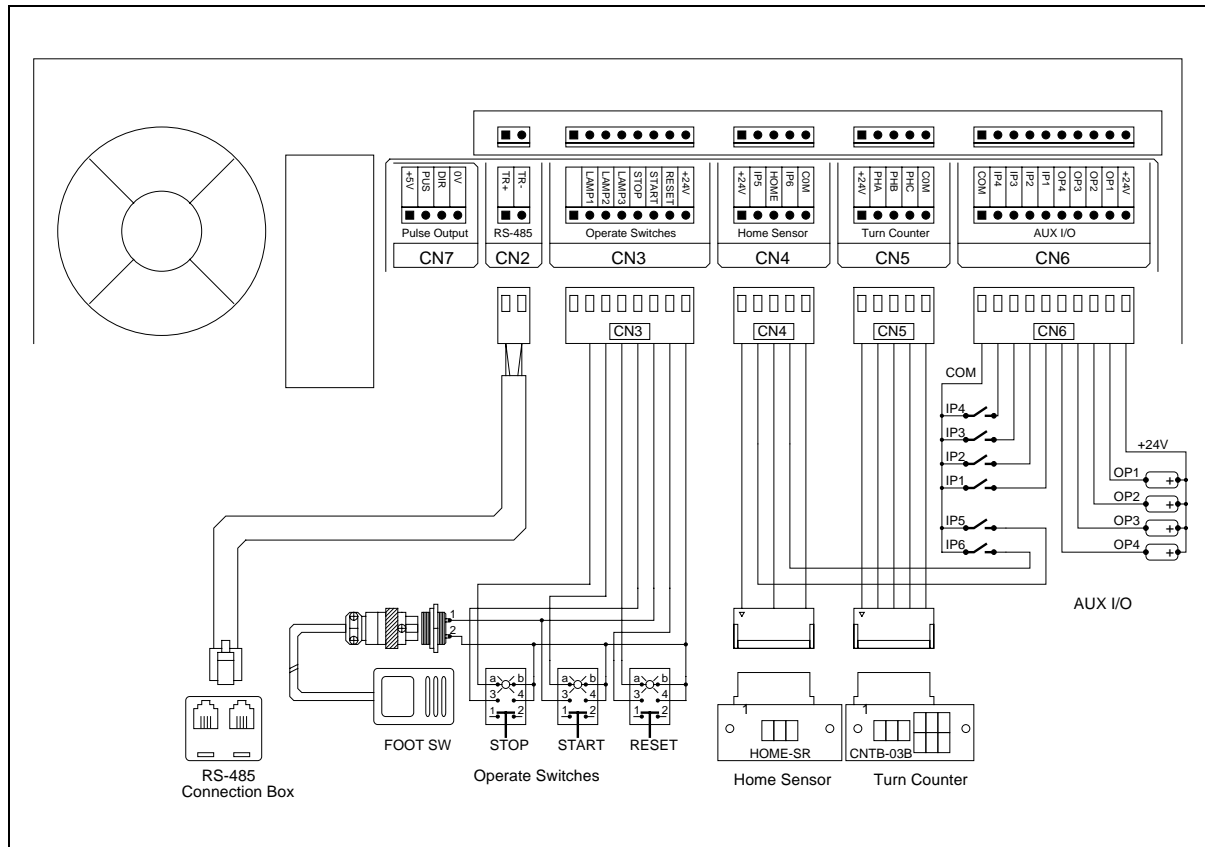
8.3.   Wiring diagram for CNC-210AS
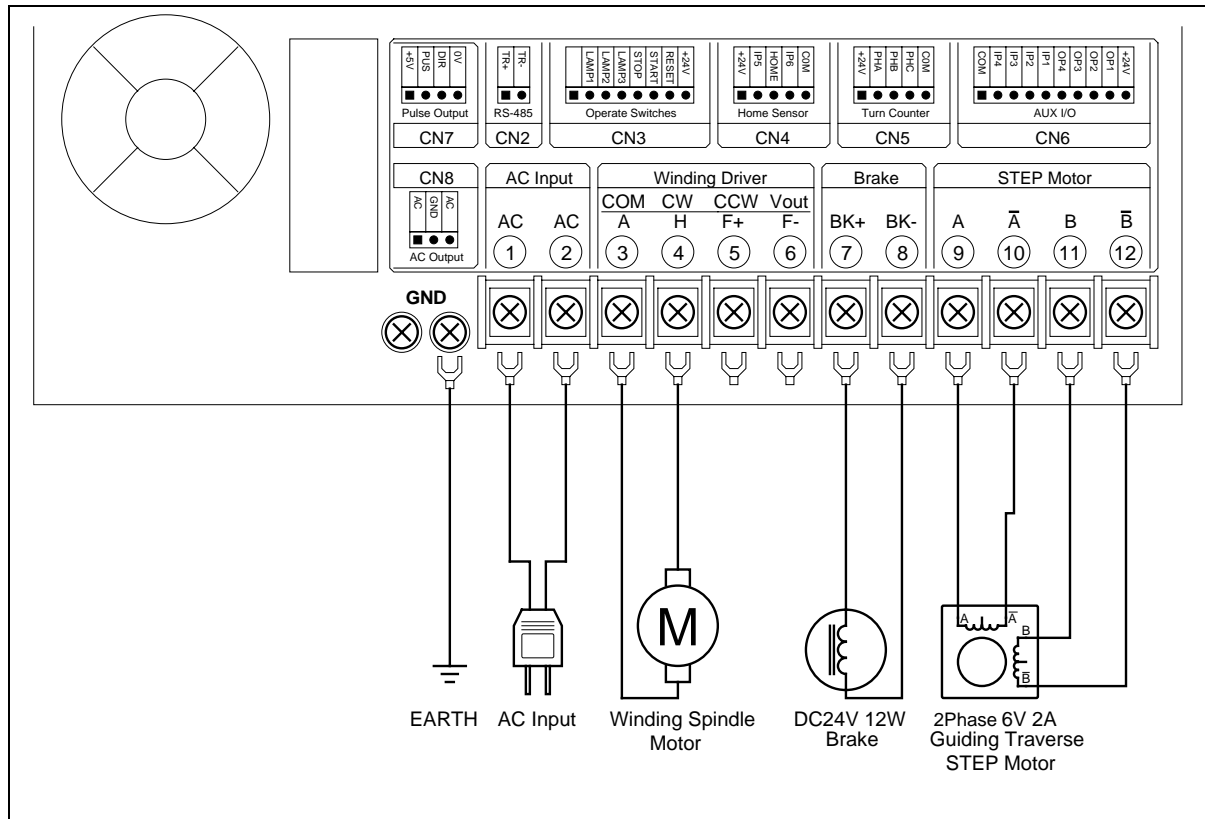
8.4.   Wiring diagram for CNC-210AE

◆Drive STEP Motor in directly

◆External connect STEP Motor driver
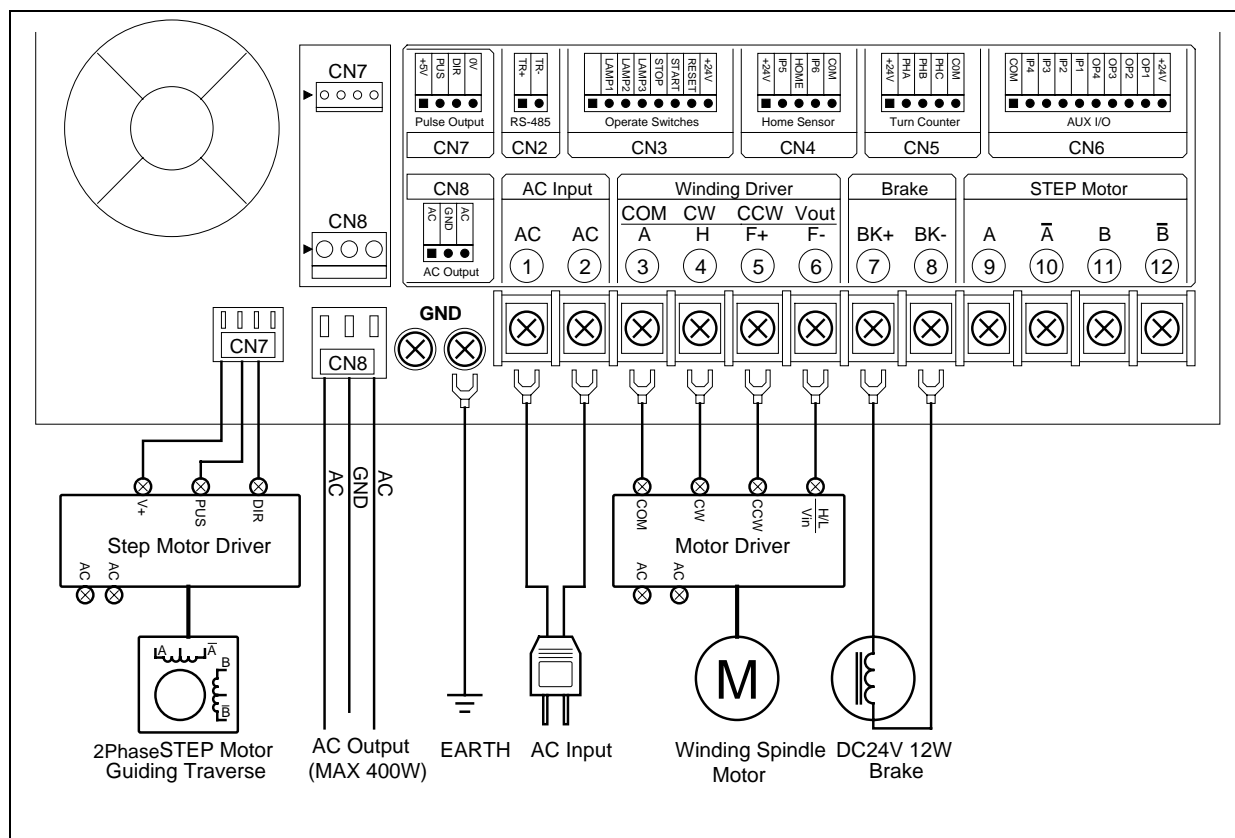
9.   ADJUSTMENT

9.1.   Adjustments for CNC-210AS

◆CL   Output current limit.

1. Connect a DC Amperes meter between terminal and DC motor as below.
2. In ready mode press EDIT RPM START to make the DC motor starting rotate and then press BRAKE to holding the winding spindle.
3. Rotate CL to set limited current, show on Amperes meter.
    (2A for 180v DC motor   4A for 90v DC motor).

(The CL have been set by factory before delivery. **Only adjust it when change DC motor and replace 210A-DVR driver board**.**)**
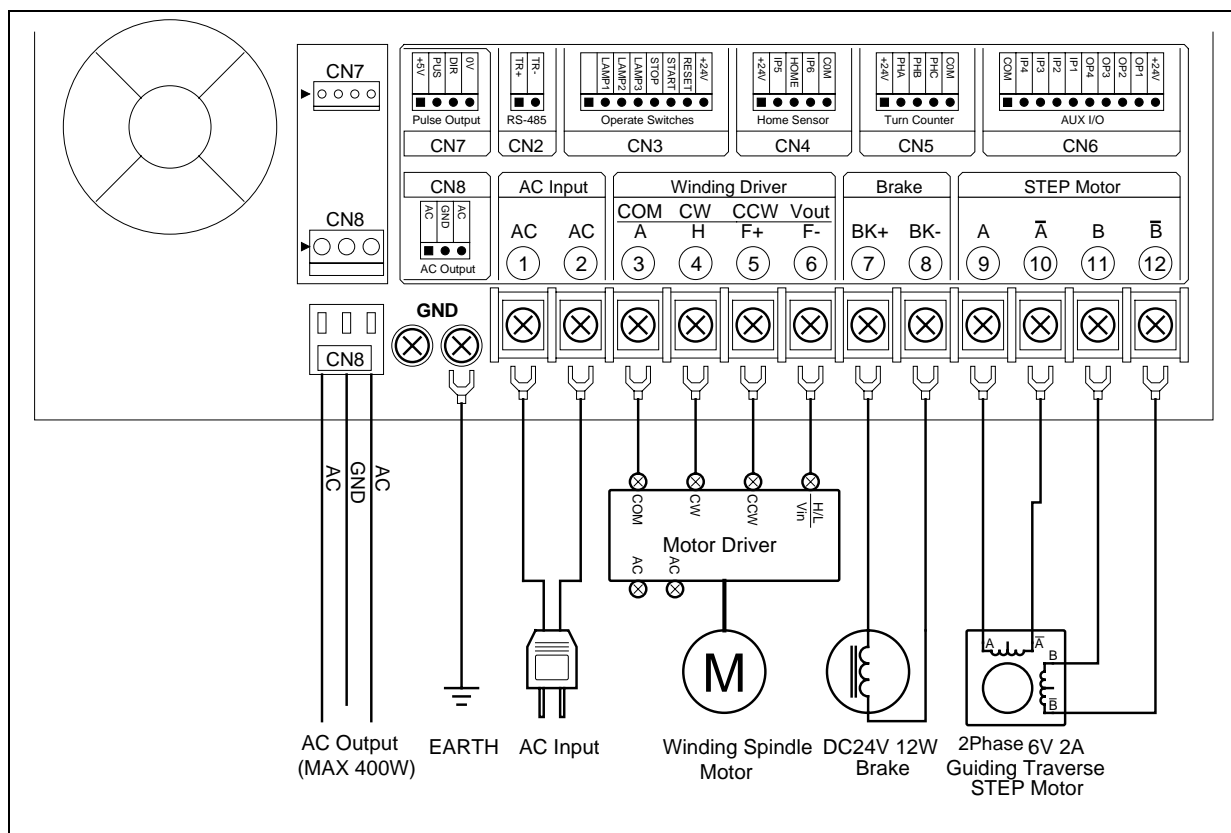
◆IR   Torque compensation.

1. Set the winding parameter H.S., L.S. in 20, then press RPM to change the DISPLAY shows RPM. Then press START key to start winding.
2. Rotate IR potentiometer to make it in same speed during the winding spindle shaft in full-load and unload. Then press STOP key to stop winding.

◆MAX   Maximum winding speed.

1. Set the winding parameter H.S., L.S. in 99, and press RPM key to change the DISPLAY shows RPM. Then press START key to start winding.
2. Rotate MAX potentiometer to make the winding speed (RPM) as you want.
    Then press STOP key to stop winding.
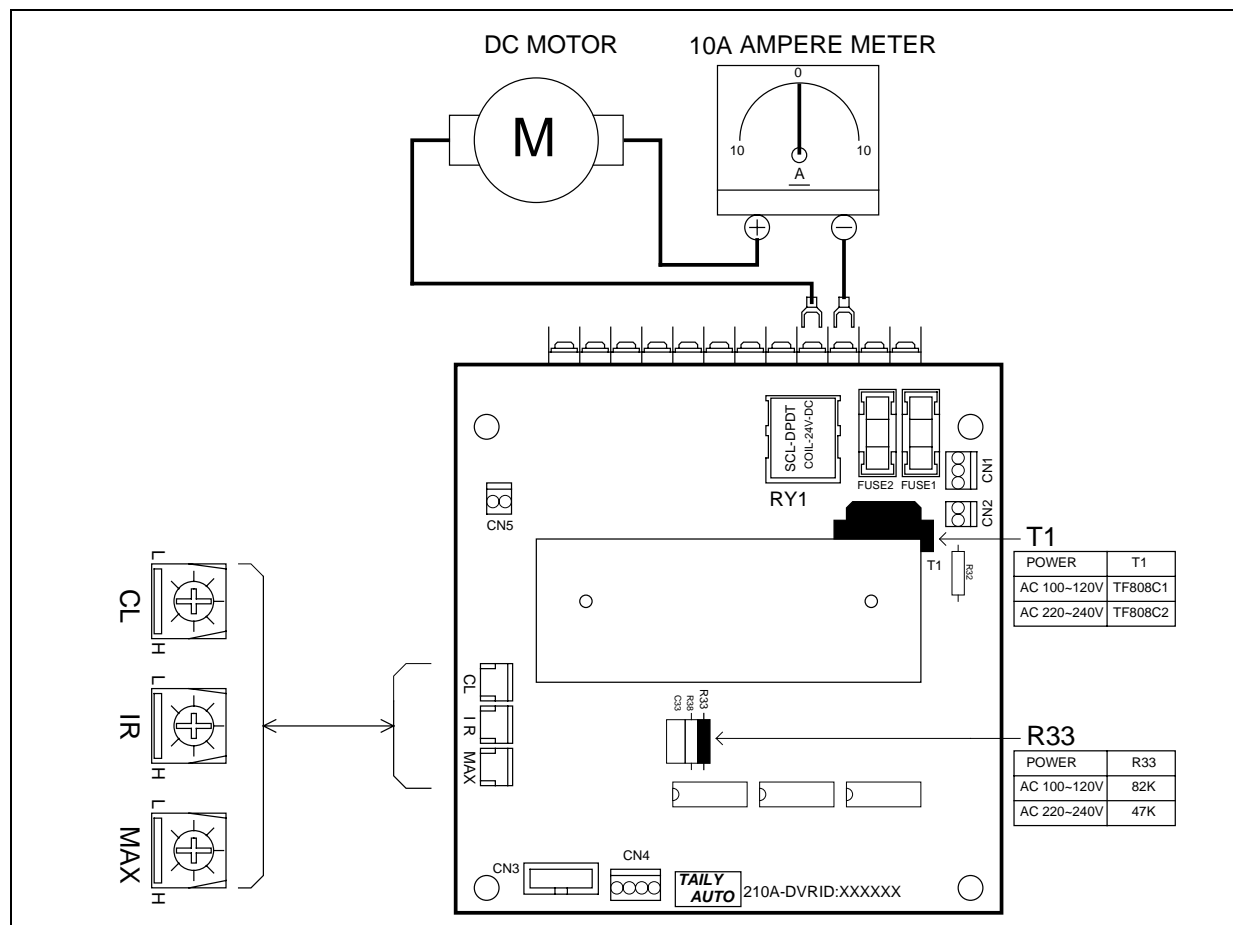
9.2.　Adjustments for CNC-210AE

◆Speed Mode selection

To select the speed signal output mode for winding driver.

Selected by JP1.

1. V-out mode　Represents the speed signal with DC 0~10v output.
2. H/L mode　Represents the speed signal with HI/LOW lever output.
   Hi speed with HI lever, low speed with LOW lever.

◆V-out adjust

1. Set the winding parameter H.S., L.S. in 99, and press ⟨RPM⟩key to change the DISPLAY shows RPM. Then press ⟨START⟩key to start winding.
2. Rotate V-out potentiometer to make the winding speed (RPM) as you want. Then press ⟨STOP⟩key to stop winding.
3. This function only worked in Vout mode.

AC POWER	T1
AC 100~120V	TF808C1
AC 220~240V	TF808C2
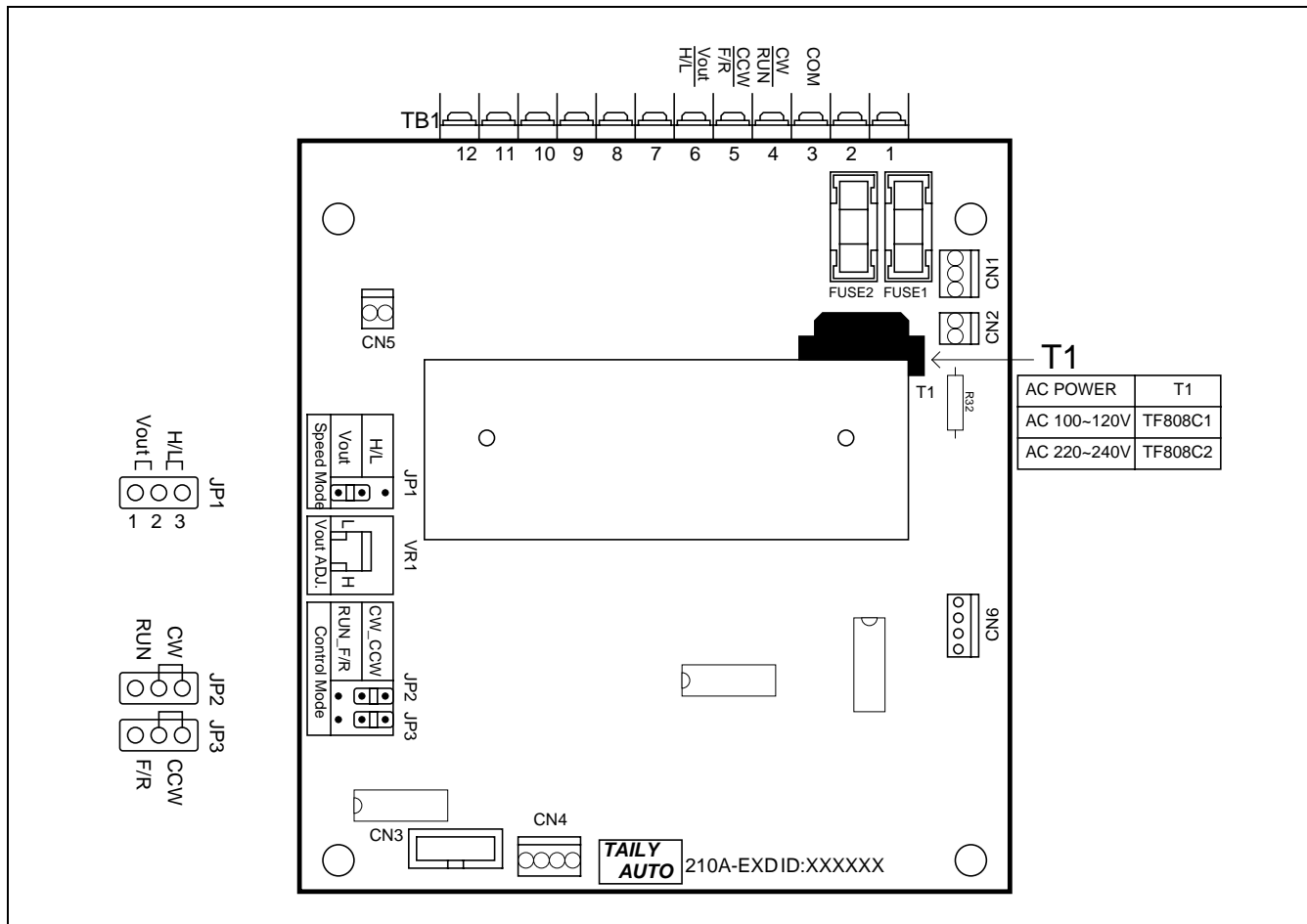
10. MAINTAIN AND TROUBLESHOOTING
10.1. Internal wiring diagram
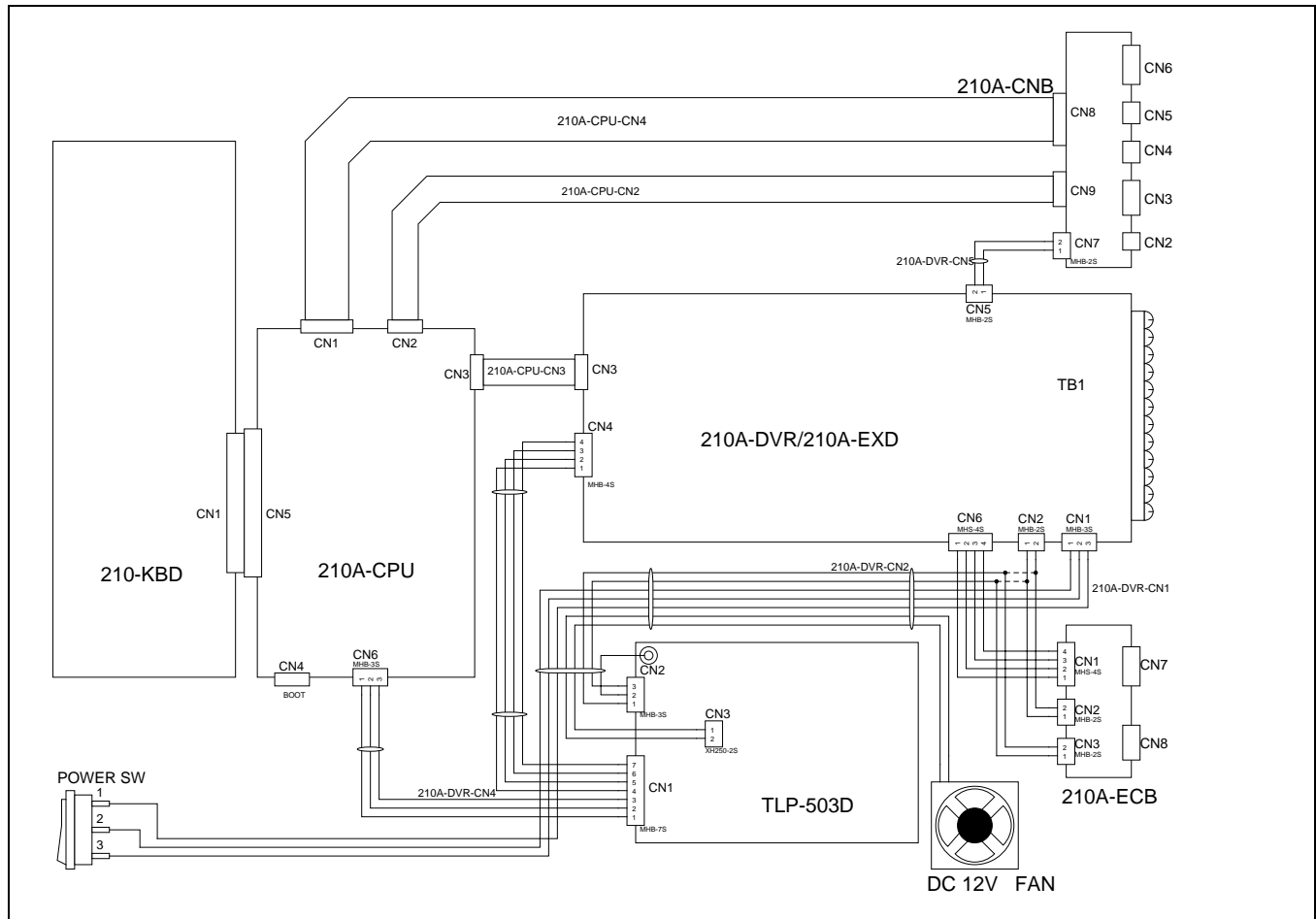
10.2. Periodically maintain

◆Please periodically clean up the controller inner accumulate dust and dopants.

◆Please periodically check the wire connection between controller and machine if have loose or bad contact.

◆The following parts must be maintained or changed periodically as list below. If any part is found faulty, it must be changed immediately even when it has not yet reached the end of its life, which depends on the operating method and environmental condition.

◆For parts replacement, please contact your sales representative.

NO	Parts name	Life guideline
1	Winding spindles Turns counter **CNTB-03B/03C**	2 years
2	Guiding traverses **HOME SENSOR**	2 years
3	**COOLING FAN** (DC 12V 6cm)	10,000 hours
4	**RELAY** (on the 210A-DVR driver board, it used to switching the winding direction)	100,000 times
5	Carbon **BRUSH** of the DC motor	1 year

10.3. Error message

When a fault occurs during operation, the DATA DISPLAY shows error massage, stop winding and then RESET go back to the READY mode.

Err-0　　The parameters or data in memory are fault.

Err-1　　The　SHIFT　value sets exceed the Travel Limit.

Err-2　　During winding, the guiding traverse to exceed the Travel Limit.

Err-3　　During winding, the guiding traverses reach to the Home sensor.

Err-5　RS-485 communication error.

Err-p　Password error, key in 4 numbers password before edit.

10.4. To abort seeks the original position

At boot and reset procedures, if because of unknown reason however engender the winding shaft and guiding traverse can't find out the original position and make the controller can't get into ready mode, can press STOP key to abort seeks the original position, make controller get into ready mode.

10.5. Troubleshooting

This section provides information to guide the user in understanding different fault condition and their general troubleshooting procedures, and with their possible solutions.

◆Do not connect or disconnect wires and connectors while power is applied to the controller.

◆Make sure that the leads and connectors are connected correctly, before doing the troubleshooting procedures.

◆Do not remove welded parts on the PC board without appropriate tools.

NO	Fault Description	Correctives Action
1	Power ON, but the display shows nothing.	Check AC power input. Check the LED lamp on TLP-503D power supply, if not lit replace TLP-503D Replace 210A-CPU.
2	Power ON, but the display shows confusion massage,	Replace 210A-CPU.
3	Power ON, but winding spindle didn't rotate, or cannot stop rotation, And controller cannot get into ready mode.	Press STOP to make the controller get into READY mode. Check the winding parameter　L.S.　setting value of START STEP Replace turns counter CNTB-03B. Replace 210A-CPU.
4	Power ON, but guiding traverse didn't move or cannot stop moving, And controller cannot get into ready mode.	Press STOP to make the controller get into READY mode. Replace HOME SENSOR. Replace 210A-DVR. Replace 210A-CPU.

NO	Fault Description	Correctives Action
5	Cannot edit parameters.	Check the READY LED lamp if not lit, do procedures number 3 and 4. Key in four numbers password before edit, if the password has been set before. Replace 210-KBD. Replace 210A-CPU.
6	Display shows Err-0, then reset, and get into READY mode.	Replace 210A-CPU.
7	Display shows Err-1/Err-2 then reset and get into READY mode.	a. Check winding parameters SHIFT and WIDTH setting value. b. Check configurations TRAVEL LIMIT setting value.
8	Display shows Err-3, then reset, and get into READY mode.	Check winding parameters SHIFT and WIDTH setting value. Replace HOME SENSOR.
9	Display shows Err-5.	Check wire connection of RS-485 connection box. Check wire connections between two stations.
10	Brake failure.	Check wire connections of brake. Replace brake. Replace 210A-DVR.
11	Winding spindle can not switching winding direction.	Check configurations Winding spindle control mode selection setting value. Replace 210A-CPU.
12	Counting failure.	Replace turns counter CNTB-03B. Replace 210A-CPU.
13	Guiding traverse moves half pitch or double pitch.	Check Configurations Moving increment setting value.

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